

**REMARKS**

Claims 1-34 are pending in this application, as amended. Applicants have amended claims 25-29 to more particularly point out and distinctly claim the invention. Claims 30-34 have been added. Support for the amendments to claims 25-29 and for new claims 30-34 can be found in at least: the language of the original claims, in the Specification in paragraphs [0018]-[0019] and [0024]-[0029] and in Figs. 1 and 4-9. The Title of the Invention was amended to be more descriptive of the claimed invention. Accordingly, no new matter has been added.

Applicants respectfully submit that: (1) no new matter has been added to the application by the amendment; (2) the amendment resolves all issues raised by the Examiner in the Office Action mailed November 11, 2003; (3) the subject matter of the amendment already has been included in the Examiner's search and therefore does not require the Examiner to perform further searching; and (4) the amendment places the application in condition for allowance or in better condition for appeal. Consequently, Applicants respectfully request that the Amendment After Final Rejection be entered in accordance with 37 C.F.R. §116 and MPEP 714.13. In particular, entry of the Amendment herein is requested under 37 C.F.R. § 1.116 because such Amendment does not raise any new issues that would require further consideration and/or search since no change or *increase* in scope is being made to the scope of the proposed amended claims and new dependent claims therefrom. Claims 25-29 have been amended to more clearly recite the invention described and depicted in the original disclosure. Claims 30-34, based on previously added claims 25-29, are being added to depend from independent claims 25-29, as amended.

***Claim Rejections Under 35 U.S.C. § 102(b)***

Claims 25-29 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,757,422 (“Bossard *et al.*,” hereinafter, “Bossard”). The Examiner takes the position that Bossard discloses a bipolar air ionizer apparatus and method therefor having the elements or steps claimed in claims 25-29, and particularly discloses a foraminous filter formed of an electrically conductive material coupled to ground.

Withdrawal of the rejections of claims 25-29 is respectfully requested in view of the foregoing amendments and for at least the following reasons.

Present Invention

The present invention is directed to an improved bipolar air ionizer apparatus having an air inlet, a high voltage source having a high voltage alternating current power supply, an electrode electrically connected to the high voltage alternating current power supply and configured to alternately generate positive polarity ions and negative polarity ions, an air outlet and an air mover for causing air to flow into the bipolar air ionizer through the air inlet, around the electrode and out of the bipolar air ionizer through the air outlet. The improvement includes a foraminous filter comprising an electrically conductive material. The filter is coupled to ground through at least one of a resistor and a capacitor. The filter is positioned over at least one of the air inlet, the air outlet and the electrodes, such that air flowing into the air inlet, air flowing out of the air outlet or air flowing past the electrodes flows through the filter.

The present invention is also directed to a method of removing ions from air flowing into a bipolar air ionizer having an air inlet, a high voltage source having a high voltage alternating current power supply, an electrode electrically connected to the high voltage alternating current power supply and configured to alternately generate positive polarity ions and negative polarity ions, an air outlet and an air mover for causing air to flow into the bipolar air ionizer through the air inlet, around the electrode and out of the bipolar air ionizer through the air outlet. The method includes the steps of placing a foraminous filter comprising an electrically conductive material over the air inlet, air outlet or near or around the electrodes and coupling the filter to ground through at least one of a resistor and a capacitor.

Bossard

Bossard discloses a balanced ion generator which incorporates a detection screen and feedback loop for controlling the ionizer to attempt to make the number of positive and negative ions emitted from the generator be approximately equal. The detection screen is located between the ion generating electrodes and the exit port of the device, and is formed of a conductive material in order to detect ions emitted by the electrodes. A ground screen, also

formed of a conductive material, is provided between the electrodes and the detection screen and is connected directly to ground. The ground screen purportedly terminates electric field lines emanating from the electrodes which may influence the detection screen (col. 4, ll. 3-9). A detected imbalance is corrected through a feedback loop comprising an operational amplifier circuit, a low pass filter, a balance control comparator, and a variable duty cycle oscillator. Bossard discloses varying the duty cycle of the variable duty cycle oscillator so that the voltage applied to the primary of a high voltage transformer is controlled, and therefore, the relative concentrations of positive and negative ions generated are altered to compensate for detected imbalances.

Claim 25

Claim 25, as amended, recites, *inter alia*:

a foraminous filter comprising an electrically conductive material, the filter being coupled to ground through at least one of a resistor and a capacitor....

Bossard fails to disclose or suggest a bipolar air ionizer apparatus having a foraminous filter comprising an electrically conductive material, the filter being coupled to ground through at least one of a resistor and a capacitor.

A claim is anticipated under 35 U.S.C. § 102 only if each and every element as set forth in the claim is found expressly or inherently described in a single prior art reference. MPEP § 2131. Furthermore, “the identical invention must be shown in as complete detail as is contained in the... claim.” MPEP § 2131.

As discussed above, Bossard discloses a balanced ion generator having a detection screen and a ground screen, both formed of a conductive material. The detection screen is connected to a feedback loop to control a variable duty cycle oscillator connected to the high voltage transformer, and the ground screen is connected directly to ground. The ground screen purportedly terminates electric field lines emanating from electrodes which may influence the detection screen (col. 4, ll. 3-9). But, Bossard does not disclose or suggest a foraminous filter

or screen over the inlet or outlet or around the ionizing pins that is connected to ground through at least one of a capacitor and a resistor, as claimed in amended claim 25.

By coupling the foraminous filter or screen to ground through a capacitor or a resistor, the filter passively attracts, collects and absorbs both positively charged and negatively charged “noise” ions in the randomly ionized incoming air thereby preventing such noise ions from flowing into or out of the ionizer which reduces the impact of such noise ions on the performance of the ionizer (see e.g., original Specification ¶¶ [0018]-[0019] and Figs. 1 and 4-6). Thus, coupling the filter to ground through a resistor and/or a capacitor improves performance in a way not recognized or contemplated by Bossard.

It is, therefore, respectfully submitted that claim 25, as amended, is not anticipated by Bossard. Accordingly, it is respectfully requested that the rejection under 35 U.S.C. § 102(b) of claim 25 should be withdrawn.

Claim 28 contains at least the identical language quoted above with respect to claim 25. Therefore, for at least the reasons set forth above with respect to claim 25, claim 28 is also not anticipated by Bossard, and it is respectfully requested that the rejection under 35 U.S.C. § 102(b) of claim 28 should be withdrawn.

#### Claim 26

Claim 26, as amended, recites, *inter alia*:

coupling the filter to ground through at least one of a resistor and a capacitor.

Bossard fails to disclose, teach or suggest a method of removing ions from air flowing in a bipolar air ionizer apparatus having a foraminous filter comprising an electrically conductive material, including coupling the filter to ground through at least one of a resistor and a capacitor. For all the reasons set forth above with respect to claim 25, it is respectfully submitted that claim 26, as amended, is not anticipated by Bossard. Accordingly, it is respectfully requested that the rejection under 35 U.S.C. § 102(b) of claim 26 should be withdrawn.

Claims 27 and 29 contain at least the identical language quoted above with respect to claim 26. Therefore, for at least the reasons set forth above with respect to claim 26, claims 27 and 29 are not anticipated by Bossard and it is respectfully requested that the rejection under 35 U.S.C. § 102(b) of claims 27 and 29 should be withdrawn.

Claims 30-34

Claims 30-34 have been added to depend from claims 25-29, respectively. Accordingly, claims 30-34 are believed to be allowable over Bossard for at least the reasons set forth above and because claims 30-34 contain addition patentable features or steps.

*Allowable Subject Matter*

The Examiner has stated that claims 1-24 are allowed.

CONCLUSION

Insofar as the Examiner's rejections were fully addressed, the instant application, including claims 1-34, is in condition for allowance. Entry of the Rule 116 Amendment, withdrawal of the Final Rejection, and issuance of a Notice of Allowability of all pending claims is therefore earnestly solicited.

Respectfully submitted,

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